

Atto Docket No.: 436589
Express Mail Label No.: EV413219918US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) Marcus-Christian Amann
Serial No. 10/535,688
Filed May 19, 2005
For Surface-Emitting Semi-Conductor
Lasers Having Buried Tunnel
Junctions and Methods of Producing
Same

Examiner Not Yet Assigned
Group Art No. Not Yet Assigned
Confirmation No. 4283

December 28, 2005

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT TRANSMITTAL

Dear Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or
(Within three months of filing national application, or date of entry of national application, or before mailing date of first office action on the merits, whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:
☐ Statement under 37 CFR 1.97(e), or
☐ a \$180 fee under 37 CFR 1.17(p), or
(After the CFR 1.97(b) time period, but before final action or notice of allowance, which ever occurs first)
- ☐ under 37 CFR 1.97(d) together with a:
☐ Statement under 37 CFR 1.97(e)(1) or (2), and
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).
(Filed after final action, a notice of allowance, on or before payment of issue fee)

Please charge to Deposit Account 12-0600 the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account 12-0600 pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 – Information Disclosure Statement together with copies of non-U.S. patents, publications or other information (if any) of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of the application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☒ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individual(s) designated in 37 CFR 1.56(c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in

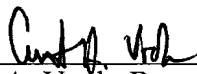
PATENT
Attorney Docket No.: 436589
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a search report or other action by a foreign patent office in a counter part foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

Respectfully submitted,

LATHROP & GAGE LC



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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	1	of	2
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Complete if Known

<i>Application Number</i>	10/468,183
<i>Filing Date</i>	April 28, 2004
<i>First Named Inventor</i>	Markus-Christian Amann
<i>Art Unit</i>	2828
<i>Examiner Name</i>	Minsun Oh Harvey
<i>Attorney Docket Number</i>	411883

U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 2

Complete if Known

Application Number	10/468,183
Filing Date	April 28, 2004
First Named Inventor	Markus-Christian Amann
Art Unit	2828
Examiner Name	Minsun Oh Harvey
Attorney Docket Number	411883

NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		ORTSIEFER, M, et al.: "Low-Threshold Index-Guided 1.5 Mum Long-Wavelength Vertical-Cavity Surface-Emitting Laser With High Efficiency", Applied Physics Letters, American Institute of Physics, New York, US, pg. 2179-2181, April 17, 2000	
		NAKAGAWA, S., et al.: "88° Continuous-Wave Operation Of Apertured, Intracavity Contacted, 1.55 Mum Vertical-Cavity Surface-Emitting Lasers" Applied Physics Letters, American Institute of Physics, New York, US, pg 1337-1339, March 5, 2001	
		ORTSIEFER, M., et al: "Submilliwatt Long-Wavelength InP-Based Vertical-Cavity Surface-Emitting Laser With Stable Linear Polarisation" Electronics Letters, IEE Stevenage, pg. 1124-1126, June 22, 2000	
		ORTSIEFER, M, et al: "90°C Continuous-Wave Operation Of 1.83-Mum Vertical-Cavity Surface-Emitting Lasers" IEEE Photonics Technology Letters, IEE Inc., New York, US, pgs 1435-1437, November 2000	
		SCHRAUD, G, et al: "Substrateless Singlemode Vertical Cavity Surface-Emitting GaAs/GaAlAs Laser Diode" Electronics Letters, IEE Stevenage, GB, pgs 238-239, February 3, 1994	
		LIAU, Z.L., et al: "A Novel Technique For Gainasp/Inp Buried Heterostructure Laser Fabrication" Applied Physics Letters, American Institute of Physics, New York, US, pg 568-570, April 1, 1982	
		International Preliminary Examination Report for PCT/EP2003/012433	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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